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Exhibit Number	:	<u></u>
Commissioner	:	<u>Michael R. Peevey</u>
Admin. Law Judge	:	<u>Maryam Ebke</u>
DRA Project Coor.	:	<u>Mary Jo Stueve</u>
	:	<u></u>



**DIVISION OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**REBUTTAL TESTIMONY
OF DIVISION OF RATEPAYER ADVOCATES IN
PACIFIC GAS AND ELECTRIC COMPANY'S
APPLICATION FOR APPROVAL OF
PHOTOVOLTAIC PROGRAM**

A.09-02-019

San Francisco, California
August 28, 2009

TABLE OF CONTENTS

1.	INTRODUCTION.....	1
2.	PG&E’S SOLAR PV PROGRAM: BIG BUCKS LITTLE BANG	1
3.	PG&E’S SOLAR PV PROGRAM: FILLING ‘THE GAP’ OR IN CONTRAVENTION OF PUBLIC UTILITIES CODE § 2775.5?	4

ATTACHMENT A: Solar Photovoltaic (PV) Projects up to 20 Megawatts in
CAISO Queue at PG&E Point of Interconnection, Station or Transmission
Line as of June 30, 2009

1. INTRODUCTION

The following Division of Ratepayer Advocates (DRA) rebuttal testimony by witness Mary Jo Stueve will address issues raised in the testimony of David Marcus on behalf of the Coalition of California Utility Employees (CUE). Topics related to California's Renewable Portfolio Standard (RPS) and cost-effectiveness are addressed in Section 2 and issues raised relating to Public Utilities Code § 2775.5 are covered in Section 3.

2. PG&E'S SOLAR PV PROGRAM: BIG BUCKS LITTLE BANG

In his testimony on behalf of the Coalition of California Utility Employees (CUE), Mr. Marcus stated that "California will need many dozens of PG&E PV size renewable projects if it is to meet a 33% RPS goal by 2020."¹

Q1. What concerns do you have with this statement, if any?

A1. What concerns me is the overreach of his statement. To date, California Renewables Portfolio Standard (RPS) requires 20% by 2010. As of November 2008, PG&E has signed enough qualifying renewables contracts to meet more than 24% of its retail load.² Mr. Marcus fails to provide any data specific to PG&E, which would indicate that PG&E is not on target to meet the 20% RPS by 2010; or, presuming the law changes, PG&E's obligations under a 33% RPS goal by 2020.

Q2. You mentioned overreach; does this pertain to the suggestion by Mr. Marcus that California will need many dozens of PG&E PV size renewable projects to meet a 33% goal by 2020?

A2. Yes. The immensity of the problem with the above statement becomes clear with a rough calculation using numbers provided by Mr. Marcus and PG&E. Looking solely at PG&E's proposed 250MW of utility-owned solar PV generation "with an anticipated

¹ Testimony of David Marcus on Behalf of The Coalition of California Utility Employees p. 2: 22-23.

² DRA Prepared Testimony p. 15: 12-13; footnote 35, PG&E Corporation presentation at the Edison Electric Institute Financial Conference, November 9-12, 2008, Phoenix, Arizona (slide 25 of 27) accessed July 17, 2009 at <http://www.pgecorp.com/investors/pdfs/2008EEIFinancialConference.pdf>.

capital cost of up to \$1.45 billion;”³ taking \$1.45 billion, multiplied by the “more than 120 renewable energy projects of this size”⁴ that Mr. Marcus said California would need state wide to meet a 33% RPS goal by 2020, comes to approximately \$174 billion. This amounts to a large cost with little effect. In other words, big bucks with little bang, whether for one PG&E Solar PV project as proposed in this instance, or many. As Mr. Marcus correctly points out, PG&E’s Solar PV project would be “only a small contribution to the renewable generation California will need.”⁵ And as multiple parties testified, in addition to DRA, there are better, more cost-effective options than PG&E’s Solar PV proposal to meet California’s RPS.⁶

Q3. Why is it important to distinguish between more cost-effective options and PG&E’s Solar PV proposal? Does it matter?

A3. It does matter and here is why. Let’s assume the calculation provided by Mr. Marcus that California would need 77,005 gwh/year to meet a 33% RPS by 2020.⁷ Taking that one step further and also accepting the premise by Mr. Marcus that the likelihood for project failure means that “even more projects will have to be pursued than ultimately needed,”⁸ California is looking at *tens of billions of dollars*, without any guarantee of reaching the RPS goal.⁹ It would be one thing for shareholders to take this gamble. It is neither just nor reasonable to expect ratepayers to bear this burden.

Q4. Can you elaborate on what you mean when you say more cost-effective options?

³ PG&E-1-1:14-15.

⁴ Testimony of David Marcus on Behalf of The Coalition of California Utility Employees p. 2:27; p. 3:1.

⁵ Testimony of David Marcus on Behalf of The Coalition of California Utility Employees p. 2:25-26.

⁶ DRA Testimony, Section III. B. Price Analysis of Alternatives (Matthew Tisdale) ps. 6-11 Confidential Version.

⁷ Testimony of David Marcus on Behalf of The Coalition of California Utility Employees p. 3:1-2; footnote 6 “Incremental renewable generation required beyond current projects to meet a 33% RPS standard in 2020 is 77,005 gwh/year, per <http://www.aiso.com/2007/2007d75567610.pdf>, p. 7.”

⁸ Ibid ps. 3:8-9.

⁹ The UOG portion of PG&E’s Solar PV proposal does not contain performance guarantees.

A4. Yes. As I mentioned previously, DRA provided testimony,¹⁰ as did other parties, as to more cost-effective options to procure renewable energy. In simple terms ‘cost-effective’ could be thought of as getting more bang for your buck. In addition to DRA’s price analysis, which showed that PG&E’s Solar PV can not compete with market alternatives as far as cost-effectiveness;¹¹ Wendy L. Illingworth of Economic Insights, provided examples of the levelized cost of energy from the California Energy Commission’s Renewable Energy Transmission Initiative (RETI) Phase 1 report showing photovoltaic generation as “one of the more costly options under today’s conditions.”¹² Solar thermal, offshore wind, anaerobic digestion, biomass, wind, and geothermal for example, came in at substantially lower levelized cost.¹³

Dr. Barbara R. Barkovich, on behalf of the California Large Energy Consumers Association, also provided testimony comparing the cost-effectiveness of PG&E’s Solar PV proposal to other solar technologies.¹⁴ She too concluded that PG&E failed to show the cost-effectiveness of its proposal, nor did PG&E attempt to “minimize costs for ratepayers.”¹⁵ Of additional importance, the testimony by Dr. Barkovich pointed out operational drawbacks of solar PV, which could create problems on the California grid.¹⁶ To curtail problems associated with these drawbacks, i.e. intermittency or over-generation, would require additional spending to add generation storage facilities or traditional back-up, reducing cost-effectiveness even further. The testimony by Dr.

¹⁰ DRA Testimony, Section III. B. Price Analysis of Alternatives (Matthew Tisdale) ps. 6-11 Confidential Version.

¹¹ Ibid; p. 10:7-8.

¹² Testimony of Wendy L. Illingworth, Economic Insights, on behalf of California Farm Bureau Federation, p. 3.

¹³ Ibid; p. 4.

¹⁴ Testimony of Dr. Barbara R. Barkovich on behalf of the California Large Energy Consumers Association, ps. 13-16.

¹⁵ Ibid; p. 16.

¹⁶ Ibid. p. 11-13.

Barkovich counters, or nullifies, the testimony by Mr. Marcus regarding potential distribution system benefits of PG&E's Solar PV proposal.

**3. PG&E'S SOLAR PV PROGRAM: FILLING 'THE GAP' OR IN
CONTREVENTION OF PUBLIC UTILITIES CODE § 2775.5?**

Q5. In the opening paragraph by Mr. Marcus (on behalf of CUE) it is noted that CUE agrees with PG&E "that there is currently a solar PV gap for mid-sized opportunities,"¹⁷ and that PG&E's Solar PV program could help fill that gap. Do you agree?

A5. It depends on how one defines 'gap' and at what stage of the process. For example, Mr. Marcus pointed out in his testimony, citing the California Independent System Operator (CAISO) interconnection queue that many renewable resource projects have been in the queue for more than a year, suggesting he said, "substantial delay and/or failure rate" with the exception of "six small projects."¹⁸ DRA also cited the CAISO queue in its testimony identifying various PV projects, 20MW and under, in active status, at various points of interconnection with PG&E's station and transmission lines.¹⁹ Ironically, it appears that both Mr. Marcus and DRA could be talking about the same solar PV projects. So, to answer the question as to whether there is a solar PV gap for mid-sized opportunities, one could look at the CAISO queue and say that 'the gap' is on its way to being filled. In this sense, while Mr. Marcus and PG&E argue that PG&E's Solar PV program is to help 'fill the gap' one could argue that PG&E's Solar PV program, if approved by the Commission, will unfairly compete with solar PV projects already in the CAISO interconnection queue at PG&E points of interconnection

¹⁷ Testimony of David Marcus on Behalf of The Coalition of California Utility Employees ps. 1:4-15.

¹⁸ Ibid, p. 4:16.

¹⁹ DRA Testimony, p.23:9-11; CAISO Position ID number and MW size at footnote 52: "As of June 30, 2009 by CAISO Position ID number: #261A (5MW), Mendota-San Joaquin-Helm 70kV line; #340 (20 MW), #473 (20MW) and #479 (20MW) Smyrna-Alpaugh 115kV line; #372(20MW), #470 (20MW), #471 (20MW) Jacobs Corner Substation 70kV bus, and #478 (20MW) Corcoran-Kingsburg 115kV line, <http://www.caiso.com/14e9/14e9ddda1ebf0ex.html>."

(Attachment A).²⁰ PG&E's Solar PV program in this regard appears inconsistent with Public Utilities Code §2775.5.

Q6. Please explain what you mean when you say that PG&E's Solar PV Program would be inconsistent with if not in contravention of Public Utilities Code §2775.5.

A6. Public Utilities Code Section 2775.5 (e) requires that "The description of the solar energy program filed with the commission shall include, but not be limited to, a showing that the program will not restrict competition ... or unfairly employ any financial, marketing, distributing, or generation advantage by the corporation on behalf of the solar energy program." If the Commission were to approve PG&E's Solar PV program as proposed it would unduly favor the utility. Similar concerns are expressed in the testimony by Wendy L. Illingworth, Economic Insights, on behalf of California Farm Bureau Federation:

Finally, we [Farm Bureau] are concerned that the development of these projects [PG&E's Solar PV] within rural areas will stress local transmission lines to the extent that farmers will be constrained from developing on-farm generation to deliver to PG&E, for example, via the feed-in tariff. Farmers are interested in developing on-farm alternative generation including solar and wind applications and potentially local regional generation from agricultural waste. We are concerned that PG&E's proposed photovoltaic projects might crowd our members "off the grid" and prevent such potential projects in future.²¹

²⁰ Attachment A created by DRA Witness Mary Jo Stueve with information from The CAISO Controlled Grid Connection Queue as of June 30, 2009, www.caiso.com/14e9/14e9ddda1ebf0ex.html.

²¹ Testimony of Wendy L. Illingworth, Economic Insights, on behalf of California Farm Bureau Federation, p. 7.

Q7. Does this conclude your rebuttal testimony?

A7. Yes.

ATTACHMENT A

As of June 30, 2009 Solar Photovoltaic (PV) Projects up to 20 Megawatts in CAISO Queue

Queue Position	Application Status	MW	Location County	State	Station or Transmission Line at PG&E Point of Interconnection	Current On-line	Study Availability		Facilities Study (FAS) or Phase II Cluster Study	Interconnection Agreement Status
						Date	Feasibility	System		
261A	Active - A39	5	Fresno	CA	Mendota-San Joaquin-Helm 70kV line	4/15/2009	N/A	Complete	Waived	SGIA Executed
340	Active - SGIP	20	Tulare	CA	Smyrna-Alpaugh 115kV line	4/1/2011	Waived	Complete	Tendered	
372	Active - SGIP	20	Kings	CA	Jacobs Corner Substation 70kV bus	11/1/2010	Waived	Complete	Tendered	
470	Active - SGIP	20	Kings	CA	Jacobs Corner Substation 70kV bus	3/1/2011	Waived	Complete	Tendered	
471	Active - SGIP	20	Kings	CA	Jacobs Corner Substation 70kV bus	7/1/2011	Waived	Complete	Tendered	
473	Active - SGIP	20	Tulare	CA	Smyrna-Alpaugh 115kV line	7/1/2011	Waived	Complete	Tendered	
478	Active - SGIP	20	Kings	CA	Corcoran-Kingsburg 115kV line	11/1/2011	Waived	In Progress		
479	Active - SGIP	20	Tulare	CA	Smyrna-Alpaugh 115kV line	10/1/2011	Waived	In Progress		

Source: Adapted from information found in The California ISO Controlled Grid Connection Queue as of June 30, 2009
www.caiso.com/14e9/14e9ddda1ebf0ex.html

A39 = Amendment39 Procedures; SGIP=Small Generator Interconnection Procedure

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I hereby certify that I have this day served a copy of the foregoing document
“**REBUTTAL TESTIMONY OF DIVISION OF RATEPAYER ADVOCATES IN
PACIFIC GAS AND ELECTRIC COMPANY’S APPLICATION FOR
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Executed in San Francisco, California, on the 28th day of August, 2009.

/s/ Halina Marcinkowski

Halina Marcinkowski

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